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NA—84—2023

FACULTY OF SCIENCE

B.Sc. (First Year) (First Semester) EXAMINATION

NOVEMBER/DECEMBER, 2023

(New Course)

ELECTRONICS

Paper I

(Basic Electronics and Network Analysis)

(Monday, 18-12-2023)

Time : 10.00 a.m. to 12.00 noon

Time—Two Hours

Maximum Marks—40

N.B. :- (i) Attempt All questions.

(ii) Illustrate your answer with labelled diagrams wherever necessary.

1. State and explain superposition theorem with suitable example. 15

Or

(a) State and explain Kirchhoff's voltage law. 7

(b) Determine proportional voltage formula in series circuit. 8

2. Explain series R.L.C. circuit, resonance and bandwidth of RLC circuit. 15

Or

(a) Explain exponential form of vector representation. 7

P.T.O.

- (b) A power transformer has 200 primary turns and 1200 secondary turns. If primary voltage is 240 V and primary current is 24 A. Find secondary voltage V_2 and current I_2 . 8
3. Attempt any *two* : 10
- (a) Proportional current formula
- (b) Norton's theorem
- (c) Significance of operator j
- (d) Resonance in parallel RLC circuit.